CLAIMS

What is claimed is:

1. A method of analyzing the effects of cross talk in a circuit that includes a bond wire and a package comprising:

modeling said bond wire with an equivalent bond wire resistance, equivalent bond wire capacitance, and equivalent bond wire inductance;

modeling said package with an equivalent package resistance, equivalent package capacitance, and equivalent package inductance;

calculating the inductance of individual traces of said bond wire and said package using an inductance matrix in which diagonal elements of said inductance matrix represent self-inductance of individual traces of said bond wire and said package and non-diagonal elements of said inductance matrix represent mutual inductance between any two of said individual traces of said bond wire and said package;

calculating the capacitance of individual traces of said bond wire and said package using a capacitance matrix in which diagonal elements of said capacitance matrix represent total capacitance of individual traces of said bond wire and said package and non-diagonal elements of said capacitance matrix represent capacitance between any two of said individual traces of said bond wire and said package;

calculating cross talk of said circuit created by said bond wire and said package as a result of said inductance calculated by said inductance matrix and said capacitance calculated using said capacitance matrix.

2. A method of analyzing the effects of cross talk in a high frequency integrated circuit transmission system comprising:

modeling traces in said high frequency integrated circuit transmission system with an equivalent resistance, equivalent capacitance, and equivalent inductance;

calculating the inductance of said traces individually using an inductance matrix in which diagonal elements of said inductance matrix represent self-inductance of individual traces and non-diagonal elements of said inductance matrix represent mutual inductance between any two of said individual traces;

calculating the capacitance of said traces individually using a capacitance matrix in which diagonal elements of said capacitance matrix represent total capacitance of individual traces and non-diagonal elements of said capacitance matrix represent capacitance between any two of said individual traces;

calculating cross talk of said system created as a result of said inductance calculated by said inductance matrix and said capacitance calculated using said capacitance matrix.

3. An analysis system that analyzes cross talk created by bond wires and an integrated-circuit package made in a signal transmission system comprising:

computer code that models said bond wire with an equivalent bond wire resistance, equivalent bond wire capacitance, and equivalent bond wire inductance;

computer code that models said package with an equivalent package resistance, equivalent package capacitance, and equivalent package inductance;

computer code that calculates the inductance of individual traces of said bond wire and said package using an inductance matrix in which diagonal elements of said inductance matrix represent self-inductance of individual traces of said bond wire and said package and non-diagonal elements of said inductance matrix represent mutual inductance between any two of said individual traces of said bond wire and said package;

computer code that calculates the capacitance of individual traces of said bond wire and said package using a capacitance matrix in which diagonal elements of said capacitance matrix represents total capacitance of said individual traces of said bond wire and said package and non-diagonal elements of said capacitance matrix represent capacitance between any two of said individual traces of said bond wire and said package;

computer code that calculates cross talk of said system created by said bond wire and said package as a result of said inductance calculated by said inductance matrix and said capacitance calculated using said capacitance matrix.

4. An analysis system that analyzes cross talk created by bond wires and an integrated-circuit package in a signal transmission system comprising:

means for modeling said bond wire with an equivalent bond wire resistance, equivalent bond wire capacitance, and equivalent bond wire inductance;

means for modeling said package with an equivalent package resistance, equivalent package capacitance, and equivalent package inductance;

means for calculating the inductance of individual traces of said bond wire and said package using an inductance matrix in which diagonal elements of said inductance matrix represent self-inductance of individual traces of said bond wire and said package and non-diagonal elements of said inductance matrix represent mutual inductance between any two of said individual traces of said bond wire and said package;

means for calculating the capacitance of individual traces of said bond wire and said package using a capacitance matrix in which diagonal elements of said capacitance matrix represents total capacitance of said individual traces of said bond wire and said package and non-diagonal elements of said capacitance matrix represent capacitance between any two of said individual traces of said bond wire and said package;

means for calculating cross talk of said system created by said bond wire and said package as a result of said inductance calculated by said inductance matrix and said capacitance calculated using said capacitance matrix.